

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Virginia Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

Tosco Manassas Terminal
10315 Balls Ford Road
Manassas, Virginia 22110
Permit No. NVRO-70235

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Manassas Terminal Company has applied for a Title V Operating Permit for its Manassas, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____

Air Permit Manager: _____ Date: _____

Regional Permit Manager: _____ Date: _____

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FACILITY INFORMATION

Owner:
Manassas Terminal Company
1400 Park Avenue
Linden, New Jersey 07036

Operator/Permittee:
Tosco Refining LP
1400 Park Avenue
Linden, New Jersey 07036

Facility:
Tosco Manassas Terminal
10315 Balls Ford Road
Manassas, Virginia 20110

AIRS ID No. 51-153-0060

SOURCE DESCRIPTION

SIC Code: 5171 - Bulk Stations and Terminals.

The facility (formerly Mobil Oil Corporation, Manassas Terminal) is comprised of seven vertical gasoline storage tanks. Each fixed roof tank is equipped with an internal floating roof and a primary seal. There are five tanks that contain gasoline additives and one tank that stores diesel fuel for facility use. The gasoline storage tanks receive gasoline from a pipeline, and distribute the gasoline to the loading rack. The gasoline additives are received from tank-trucks. Additives and gasoline are mixed during dispensing operations at the loading rack.

The loading rack is capable of loading four tank-trucks at one time. Gasoline vapors are controlled at the loading rack with a vapor recovery unit/vapor destruct unit (VRU/VDU).

The facility is located in a non-attainment area for ozone, and it was previously permitted (by Mobil Oil Corp.) under a Minor NSR Permit, issued on March 3, 1998.

COMPLIANCE STATUS

The facility is inspected twice a year.

The facility is in compliance with 9 VAC 5-40-Rule 37, 40 CFR 60, Subpart XX, and relevant portions of 40 CFR 60, Subpart Kb.

EMISSIONS INVENTORY

Annual emission for 2000 are summarized:

Significant Emission Units and Controls

Volatile Organic Compounds¹		
Description	Annual – tons/year	Method
Tank Emissions – Gasoline	16.4	AP-42 (Tanks Model)
Loading Rack Stack	5.13	AP-42
Loading Rack Fugitives	0.1	AP-42 CTG
Equipment Fugitives	0.17	AP-42
Truck Loading Fugitives	0.8	AP-42 (Tanks Model)
Total	22.6	

¹ Based on a throughput of 305,860,429 gallons with total VOC emissions of 22.66 tons/year.

Significant Emission Units and Controls

Emission Unit ID	Description	Size Cap	Control Description	Pollutant Controlled	Applicability
T-1	Storage Tank	1,128,311 gal	Internal Floating Roof* (vapor mtd. primary seal)	Gasoline - VOC (all sources)	NSR Permit*
T-2	Storage Tank	2,272,146 gal	Internal Floating Roof* (mech. shoe primary seal)		NSR Permit*
T-3	Storage Tank	673,851 gal	Internal Floating Roof* (vapor mtd. primary seal)		NSR Permit*
T-4	Storage Tank	1,978,512 gal	Internal Floating Roof* (vapor mtd. primary seal)		NSR Permit
T-5	Storage Tank	821,236 gal	Internal Floating Roof* (vapor mtd. primary seal)		NSR Permit
T-6	Storage Tank	2,381,945 gal	Internal Floating Roof* (mech. shoe primary seal)		NSPS - Subpart Kb**
T-7	Storage Tank	2,377,921 gal	Internal Floating Roof* (mech. shoe primary seal)		NSPS - Subpart Kb**
LR (VRU/VDU)	Loading Rack	144,000 gal/hr	Vapor Recovery Unit Vapor Destruct Unit		NSPS - Subpart XX***

*NSR Permit dated March 1, 2001.

**Tanks constructed after July 23, 1984, subject to 40 CFR 60, Subpart Kb.

***Loading Rack modified after December 17, 1980 subject to 40 CFR 60, Subpart XX.

2000 VOC HAP Emissions:

In 2000 there were 2.0 tons of HAP emissions that were included in the VOC total emissions above.

The following compounds are the HAP emissions expected:

Benzene, Cumene, Ethyl benzene, Hexane (-n), Isooctane, MTBE, Naphthalene, Toluene, Trimethylpentane, Xylenes. At present MTBE is the predominant HAP emitted from reformulated or oxygenated gasoline, and Xylenes are the predominant HAP emitted from conventional gasoline.

Other HAPs may be present in trace amounts.

EMISSION UNIT APPLICABLE REQUIREMENTS

This facility is covered by a New Source Permit to Modify and Operate which was issued March 3, 1998. The loading rack was modified in 1998 to allow for the simultaneous blending of low and high grade gasoline to load out mid-grade gasoline. This modification made the loading rack subject to 40 CFR 60, Subpart XX. Two gasoline storage tanks at this facility were constructed in 1996. These are subject to 40 CFR 60, Subpart Kb. VOC emissions from the operation of the loading rack are limited to 18.27 tons/yr; and fugitive VOC emissions from the tanker truck loading operation are limited to 14.62 tons/yr. The total organic emissions through the vapor control system shall not exceed 10 mg/l of gasoline loaded. The fugitive VOC emissions from the tanker truck loading operation shall not exceed 8 mg/l of gasoline loaded. These emissions are based on a total annual throughput of gasoline of 438,000,000 gallons, and a total of 750,000 gallons of additives through the loading rack. These limitations appear in the New Source permit where emission limits are based on the projected maximum emissions for a maximum increase in business over a five year period. As long as the throughput limit of the loading rack (438,000,000 of gasoline) is not exceeded, the facility could not exceed the New Source permit emission limits. The emission caps are for anticipated emission inventory purposes. Actual emissions are somewhat less. The actual VOC emissions have within the last year fallen below VOC - major source levels and HAP emissions have as a matter of course remained and will remain below 50% of the MACT trigger levels.

Limitations

The following limitations are SIP requirements under Rule 4-37:

EMISSION UNIT - TANKS

Emissions to the atmosphere from the fixed roof gasoline tanks shall be controlled by internal floating roofs resting on the surface of the liquid contents and equipped with closure seals to close the space between the floating roof edge and the tank shell. Tanks storing volatile organic compounds (VOC) shall achieve a minimum of 90% reduction by weight in emissions. The storage of petroleum products with a true vapor pressure greater than or equal to 1.5 psia shall achieve this reduction by installing an internal floating roof equipped with closure seals.

Fixed roof tanks storing petroleum liquids with a vapor pressure less than 1.5 pounds per square inch absolute (psia) under actual storage conditions or, in the case of filling or processing, under actual filling conditions are exempt from Rule 4-37. (9 VAC 5-40-5200. C)

All gasoline storage tanks located at this facility have internal floating roofs with seals. These requirements are specified in 9 VAC 5-40-5230. A. 1. a. and 9 VAC 5-40-5230. B 4. 4. Tanks so equipped may store either gasoline or distillates. The facility at this time stores only gasoline. If one or more of these tanks store distillates the annual inspections and the internal inspections still apply.

EMISSION UNIT - LOADING RACK AND VAPOR CONTROL UNITS

No owner or other person shall cause or permit the discharge into the atmosphere from a bulk gasoline terminal (including any appurtenant equipment necessary to load or unload tank truck compartments) any volatile organic compound in excess of 0.67 pounds per 1000 gallons of gasoline loaded (80 mg/l). This is accomplished by a vapor control system that is comprised of a vapor recovery system (VRU) –Compression –refrigeration – adsorption system and a vapor destruct system (VDU). The vapor destruct system is a thermal oxidation system. The vapor control systems exceed the 90% removal of vapors emitted to the atmosphere. The systems are designed to assure the voluntary 10 mg/l emissions limit which the source requested. (9 VAC 5-40-5220.C.1, 9 VAC 5-80-100.A)

Limitations for throughput of gasoline were reiterated from a previous (superseded) permit to 438,000,000 gallons per year. Emissions of VOC from the seven (7) gasoline storage tanks, are listed as 28.9 tons /yr; VOC emissions from the operation of the five additive tanks are listed as 0.124 tons /yr. These emissions listings are for inventory purposes. They are stated in Conditions 4, 5, and 6 of the New Source permit dated March 3, 1998.

The loading rack is equipped for bottom loading - all bays.
(9 VAC 5-80-100.A)

The throughput limit of gasoline through the loading rack regulates the throughput of HAPs. This limit results in emissions of MTBE and total HAPs of less than half of the threshold limit for Subpart R applicability.

The certification inspection required at least once during the permit interval, the daily and monthly checks, and the quarterly factory maintenance of the vapor control system serve to monitor and assure proper operation and conformance with the emission limitations.

40 CFR 60, Subpart XX Requirements

Total organic compound (TOC) emissions from the vapor recovery unit shall not exceed 10 mg/l of gasoline loaded. The source has elected to accept the ten-mg/l value that appears in their 1998 permit. It is found at Condition IV.A.2.

Vapor tightness of the loading rack and VRU must be verified by monthly inspections during the loading of tanker trucks. Sight, sound, and smell are acceptable means for the determinations. Findings must be recorded in a suitable form, and the log must be retained on site for review by appropriate inspectors. This condition is found at Condition IV.B.4 and is found in the regulations at 40 CFR 60.502(j).

Fugitive emissions from the loading rack may be quantified. These emissions (TOC) have been calculated from AP-42 data as thirteen mg/l, loaded. However, data from the CTG indicate that the emissions are more nearly eight mg/l. The eight mg/l factor is used in the permit both for establishing an emission inventory and for fee purposes. This requirement appears both in the Title V permit at Condition IV.E, and in the New Source permit of March 3, 1998 at Condition 7.

MACT APPLICABILITY

Tosco (formerly Mobil) has requested throughput limits and HAP limits under 9 VAC 5-80-10 and 9 VAC 5-80-100.A. to make it clear that it does not have the potential to emit at the major source level for HAPs. Tosco is not taking the limits to change its status from major to minor in order to avoid applicability to Subpart R.

This facility is not a major HAPs source and, therefore, it is not subject to Subpart R. The following table shows the current throughput and HAP emissions resulting from permit limits requested in both NSR and Title V permit applications. Because it is located in a nonattainment area, this facility has been required to install controls for VOC emissions. Since most of their HAP emissions are also VOCs, the facility HAP emissions are controlled as well. A NSR permit is required before this source can modify the terminal for enough throughput to approach HAP applicability. Tosco currently does not have the PTE to be a major HAP source.

Status	Gallons/year	MTBE – tons/yr	Total HAP – tons/yr
Actual emissions (1998)	317,639,000	3.8	4.6
Current Limit (Title V & NSR)	438,000,000	4.5	6.0
Approximate Limit for MACT applicability	950,000,000	>9.8	>15

According to 40 CFR 63, Subpart R – National Emission Standards for Gasoline Distribution Facilities, 40 CFR 63.420(a)(2), the affected facility to which the provisions of the subpart apply is each bulk gasoline terminal except those bulk terminals “For which the owner or operator has documented and recorded to the Administrator’s satisfaction that the facility is not a major source,…”

According to 40 CFR 63, “major source” is defined in Subpart A and is a source with actual or potential HAP emissions, considering controls, of 10 or more tons per year of a single HAP or 25 or more tons per year of any combination of HAPs.

When using the inventory determination described in 40 CFR 63.420 (a)(2), the Subpart R recordkeeping requirements contained in 63.428 (l) and (j) do not apply and as stated in 40 CFR 63.420(f) as amended Feb.28, 1997, the source is not required to submit its inventory determination unless requested by the Administrator. This is further emphasized in the preamble to the amendment, FR Vol 62 no. 40 p 9091 para. 6.

To summarize, Tosco is not a major HAP source, is not subject to Subpart R, and was not required to notify the Administrator that it was not a major source. Since it is not a major source, the throughput limit they have requested is not creating a "synthetic minor", they are simply stating the PTE.

Monitoring

Monitoring of tanks is found in the Title V permit at Condition III. B. 1, 2, 3. The emissions are estimated by the current revision of the EPA TANKS model, and records of tank contents, average storage temperature, and true vapor pressure of the product stored.

Monitoring is required for total organic compound emissions from the vapor control units as described in Condition Part IV.B.1-4. Methane and ethane are not considered in this record because they are excluded per 40 CFR 60.503(c)(6). The baseline for this is established during the annual certification test. The expected response time to inspect and isolate a breakthrough or other malfunction is from one (1) to 24 hours. The expected time required to develop and implement a solution is from one (1) to seven (7) days.

The monthly and annual site inspection of all pumps, fittings, etc., at Condition Part IV.B.3 and 4 assures that fugitive emissions will be minimized.

Recordkeeping and Reporting

All records of monitoring maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

- (1) The date, place as defined in the permit and the time of sampling or measurements.
- (2) The dates analyses were performed.
- (3) The company or entity that performed the analyses.
- (4) The analytical methods used.
- (5) Results of such analyses.
- (6) Operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

Records of all monitoring data and supporting information shall be retained for at least five years (9 VAC 5-80-110.F.1.b) from the date the information was obtained unless a lesser date is indicated. Support information includes all calibration and maintenance records and all other data including modeling, if required by the permit. This data shall also include any deviations from permit requirements. The term deviation includes any exceedence of permit condition or any excursion from control performance indicator documented through periodic or compliance assurance monitoring. Results of this data contained in any applicable requirement shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office with a copy to

Chief, Air Enforcement Branch (3AT20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Results shall be submitted no later than March 1 and September 1 of each calendar year. The report must be signed by a responsible official consistent with 9 VAV 5-80-80 G, and shall include:

- (1) The time period covered by the report - the time periods to be addressed are January 1 to June 30 and July 1 to December 31 (9 VAC 5-80-110 F).
- (2) The permit also requires periodic inspections of the internal floating roof, the associated seals and the recordkeeping and reporting for the inspections. By this permit and the New Source permit all internal floating roof tanks are required to be inspected and recordkeeping and reporting are the same for all tanks which store gasoline. The tanks are also subject to 9 VAC 5-40-5200. Under the present operational mode the additive tanks, A-1 through A-5 are exempt from regulation because of the vapor pressure of the liquid stored.
- (3) A vapor combustion unit for the loading rack was installed in 1998, to supplement the vapor recovery unit in operation. Stack testing on April 30, 1998 demonstrated emissions through the combustor unit of 1.81mg/l of gasoline loaded, and emissions through the vapor recovery unit of 3.04 mg/l of gasoline loaded.
- (4) The NSPS Subpart XX also requires tanker truck certification for vapor tightness that is addressed at Condition VI and VII of the Title V permit.

Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms of this permit or as a part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year, a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to § 114(a)(3) and § 504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G and shall include:

- (1) The time period included in the certification - The time periods to be addressed is January 1 to December 31.
- (2) A description of the means for assessing or monitoring the compliance of the source with its emissions limitations, standards and work practices.
- (3) The identification of each term or condition of the permit that is the basis of the certification.
- (4) The compliance status.
- (5) Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-conformance.
- (6) Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
- (7) Such other facts as the permit may require to determine the compliance status of the source.

The certification as described shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office, and a copy shall be sent to:

Clean Air Act Title V Compliance Certification (3APOO)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

This requirement is addressed at Condition VIII.D.
(9 VAC 5-80-110 K.5)

Testing

The permit does require testing on the vapor recovery unit. The vapor combustion unit (VCU) is used approximately ten per cent of the time which is the scheduled maintenance servicing time for the vapor recovery unit (VRU). It is also required to be tested. The interval of testing is once

per permit period, within eighteen months of the permit issuance. The vapor control system must be tested after a major shutdown. A major shutdown includes burnthrough of the carbon beds, breakdown malfunction of the vapor combustion unit, or breakdown malfunction of the refrigeration unit. A table of test methods has been included at Condition VII.C.2 in the permit, when testing is performed. The Department and EPA have authority to require testing not included in this permit, if necessary to determine compliance with an emission limit or standard.

Reporting

There are requirements for reporting when a tank is to be filled or refilled after maintenance or inspections. Reporting is also required when a compliance test is required for the vapor control units. It is also required that any malfunction which could compromise the ambient air must be reported. Semiannual and annual reporting are required for monitoring data and compliance certification reports respectively.

Streamlined Requirements

Source has already streamlined requirements for Loading Rack/VCU emissions.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE ONLY APPLICABLE REQUIREMENTS

The following requirement has specific requirements only enforceable by the State and have been identified as applicable by the applicant:

Existing Stationary Sources, Emission Standards for Odor Rule 4-2. (9 VAC 5-40-130)

FUTURE APPLICABLE REQUIREMENTS

Currently, there are no future applicable requirements for this facility.

INAPPLICABLE REQUIREMENTS (from the permit)

Citation	Title of Citation	Description of applicability
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Citation	Title of Citation	Description of applicability
9 VAC 5-40-3410 through 3550	Emission Standards for VOC Storage and Transfer Operations	Since the provisions under petroleum liquids storage or transfer apply, and support tanks are less than 40,000 gallons capacity Article 25 does not apply (9 VAC 5-40-3410. C)
40 CFR 60, Subparts K and Ka Gasoline Storage Tanks	NSPS for storage vessels for petroleum liquids/volatile organic liquids	All gasoline storage tanks with exception of three* were constructed prior to June 11, 1973
40 CFR 63, Subpart R	National Emission Standard for Gasoline Distribution - Stage I	Emissions are below 10 TPY for a single HAP and below 25 TPY for a combination of all HAP
40 CFR 68	Accidental Release Prevention Requirements: Section 112 (r)	Petroleum Liquids (gasoline, diesel fuel, jet fuel, etc.) Are not subject to this rule

* Tanks T-5, was constructed in 1991, and T-6, and T-7 were constructed in 1996. This makes 40 CFR 60, Subpart Kb applicable to these three units.

INSIGNIFICANT EMISSION UNITS

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720, and appear in the Title V permit:

Emission Unit No.	Emission Unit Description	Citation (9 VAC)	Pollutant(s) Emitted	Actual/Potential Contents	Rated Capacity
A-1	Horizontal Tank	5-40-5200. C	VOC	Gasoline Additive	8,000 gal
A-2	Horizontal Tank	5-40-5200. C	VOC	Gasoline Additive	4,000 gal
A-3	Horizontal Tank	5-40-5200. C	VOC	Gasoline Additive	12,000 gal
A-4	Horizontal Tank	5-40-5200. C	VOC	Gasoline Additive	10,000 gal
A-5	Horizontal Tank	5-40-5200. C	VOC	Gasoline Additive	10,000 gal
W-1	Horizontal Tank	5-40-5200. C	VOC	Water/Gasoline	20,000 gal
W-2	Horizontal Tank	5-40-5200. C	VOC	Water/Gasoline	20,000 gal

There are also two diesel fuel tanks with insignificant emissions. These are unregulated.

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Washington Times on June 20, 2001 .